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Antibiotiki pri eksperimental'noi sibirskoi yazeve u zhivotnykh.

(Antibiotics in experimental anthrax of animals)

Veterinariya 37(7):43-44, July 1960.

Of late, antibiotics are very frequently used in treatment of animals affected with anthrax. The high therapeutic effectiveness of penicillin, biomycin, streptomycin and terramycin was established by many authors and also by us in experimental anthrax on guinea pigs and white mice. There are also individual reports on the application of antibiotics in spongiform anthrax. Besides the antibiotics, we also tested furacilin** and obtained positive results.

The experiments, conducted on the tests of antibiotics in experimental anthrax of agricultural animals, were carried out on the following animals: on four two and one half month old kids; on 2 one to two month old foals; on three lambs (3 months old) and on two mature sheep.

The animals, which had not been immunized previously - were infected with the second anthrax vaccine, which was injected at doses that were 20 to 50 times as high as those meant for immunization.

For prophylactic purposes, antibiotics were applied on three kids; these injected were simultaneously started with the infection. Penicillin in camphor oil (5 injections at 100 thousand units) were injected to the first kid; streptomycin in physiological solution (also 5 injections at 100 thousand units) were administered to the second kid, whereas the third kid was simultaneously treated with both penicillin and streptomycin at the same quantity and numerical amount of doses.

The experimental kids did not become sick, whereas the fourth, bearing the control, died with clinical symptoms of anthrax 66 hours after the infection. The diagnosis was confirmed by post-mortem bacteriological examination.

The foals, lambs and sheep were subjected to treatments with antibiotics as soon as the clinical symptoms of the disease occurred. The foals became sick 36 to 40 hours postinfection. The following symptoms were (in them) observed: temperature rise up to 40°; accelerated pulse rate up to 80-85-90 strokes and accelerated breathing up to 30 respiratory movements per minute; severe cyanosis of the mucous membranes; increased peristalsis of the intestines; accelerated erythrocyte sedimentation reaction (ROE) at the rate of 50 degrees per the first 15 minutes (compared to 19 to 22 degrees

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Translator's note: *chlortetra-cycline

Translator's note: **5-nitro-2 furaldehyde semicarbazone

prior to the infection); increased amount of leukocytes up to 12,5000 - 14,500 (compared to 7,500 to 8,500 prior to the infection). A carbuncle, measuring 12 to 18 cm, had formed on the site of the injection of the vaccine.

Streptomycin physiological solution was used for the treatment of the foals: 800 thousand units were injected the first time, whereas later on, injection of 500 thousand units were made. Four injection were administered to the first foal, eleven were forced into the second foal, because a relapse of the disease occurred two days after the temperature had dropped.

The aqueous solution of Furacilin (1:5,000) was inoculated into the thickest part of the carbuncle.

As early as 1² to 22 hours postinfection, the temperature of the lambs started to increase (up to 41.6°). In addition to the thermal reaction, the following symptoms were observed in the lambs; accelerated pulse rate up to 120 strokes, 90 respiratory movements per minute; depression and complete anorexia.

The lambs were subjected to a combined treatment with 'Bicillin' and streptomycin. During five days, single injections of bicillin were administered at a dose of 200 thousand units, those of streptomycin contained 100 thousand units; firstly, two injections were per 24 hours, later on, after the recovery, they were reduced in order to avoid a relapse, which was observed in one of the foals, therefore only one injection was made per 24 hours.

Forty eight hours postinfection, the temperature rose in the mature sheep; accelerated pulse and respiration were observed, also anorexia as well as an increased amount of leukocytes.

Single injection of bicillin at a doses of 300 thousand units and injection of streptomycin at a dose of 200 thousand units, were administered to the sheep; all in all 4 injections.

All animals, subjected to the tests, recovered.

*Translator's note: benzathine penicillin G (The condensed Chemical Dict.).

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